

AMENDMENTS TO THE SPECIFICATION

Please amend the paragraph on page 3, line 7, to line 21, as follows:

The nitrogen rich layer is a layer in which the nitrogen content in the surface layer of the raceway ring (outer ring or inner ring) or a rolling element is increased and which can be formed by such treatment as carbonitriding, nitriding or nitrogenizing. The nitrogen content in the nitrogen rich layer is preferably in the range of 0.1 - 0.7%. If the nitrogen content is less than 0.1%, there is no effectiveness, and the rolling life decreases particularly under foreign matter mixed-in conditions. If the nitrogen content is greater than 0.7%, voids are formed or the retained austenite becomes too much, resulting in loss of hardness or a short life. Concerning the nitrogen rich layer formed in a raceway ring, the nitrogen content refers to its value measured in the 50 µm-deep layer of the raceway surface after grinding. It can be measured, e.g., by EPMA (wavelength diffusion type X-ray micro analyzer).

Please amend the paragraph on page 3, line 23, to page 4, line 13, as follows:

Further, the fact that the austenite grain size is so small that the grain size number of the austenite crystal grains exceed the number 10, makes it possible to greatly improve the rolling fatigue life. If the grain size number of the austenite grain diameter is the grain size number 10 or less, the rolling fatigue life will not be improved so much; thus, the range should exceed the number 10. Usually, the grain size number should be 11 or more. The smaller the austenite grain size, the more desirable. However, usually, it is hard to obtain a grain size number which exceeds 13. In addition, the austenite grains in said bearing component do not change in the surface layer having the nitrogen rich layer or in the interior inside the same. Therefore, the above-described position in which the range of crystal grain size applies not only to number is determined should be the surface layer but also to the or interior of the bearing component. Even after hardening treatment, traces of austenite crystal grain boundaries present immediately before hardening remain, and austenite crystal grains refer to the crystal grains based on the traces, i.e. a vestige of the austenite grain boundary remains in the microstructure and is referred to as the prior austenite grain boundary. The term "austenite grain" here refers to the prior austenite grain.

Please amend the paragraph on page 7, line 3, to line 20, as follows:

A heat treatment including carbonitriding will be described as a concrete example for forming a nitrogen rich layer. Fig. 2 is a view for explaining a method for heat treating rolling bearings in the embodiment of the invention, and Fig. 3 is a view for explaining a modification thereof. Fig. 2 shows a heat treatment pattern showing a method for performing primary and secondary hardenings, and Fig. 3 shows a heat treatment pattern showing a method in which a material is cooled to a temperature less than the A_1 transformation temperature in the course of hardening, and then reheated for final hardening. In these figures, at a treatment T_1 , carbon and nitrogen are diffused into the matrix of steel and in this state sufficient dissolving of carbon in the matrix is effected, whereupon the material is cooled to a temperature less than the A_1 transformation temperature. Then, at a treatment T_2 in the figure the material is reheated to a temperature above the A_1 transformation temperature but below the treatment T_1 , and from the reheated temperature oil-hardening is effected.